It would seem that enough has now been done to correct the cystocele and rectocele, and usually this is indeed the case; but if we have to deal with a uterus with elongated cervix and damaged anterior and posterior supports, that cervix may still force its way through the smallest vagina. For such reasons it is sometimes necessary either to amputate the cervix or to fix the fundus of the uterus to the abdominal wall or to perform both operations. In a number of cases in which this complicated operation has been done the functional results have been extremely satisfactory.

In the case of young women in the childbearing period the newly formed perineal body has been found to act in a very normal fashion; it stretches surprisingly before the descent of the fœtal parts, and in the three cases in which I have watched it it has neither proved too resistant nor has it suffered from extensive secondary laceration, as is seen so frequently after the performance of denuding operations followed by labor.

I have a list of forty of these flap-splitting operations, thirty of which were done at the Massachusetts General Hospital and ten in private practice. Of the thirty hospital cases, the immediate results were invariably so excellent that I have been prompted to make this brief report and description of the manœuvre. Eleven of them were in cases of young women and nineteen in women who had passed the menopause. Fourteen have been traced, and the reports from the patients express satisfaction.

Of the ten private cases, three were in young women who have since borne normal children and in a satisfactory manner. The remaining seven cases were those of older persons, who suffered more or less severely from pelvic herniæ. In none of the cases was there done any denuding of the bladder or rectum walls. In four of them the uterus was fixed anteriorly; the anatomical and functional results have been good.

TWO CASES OF LEFT DUODENAL HERNIA, IN ONE OF WHICH THE SAC CONTAINED THE ENTIRE SMALL INTESTINE, THE CÆCUM, AND A PORTION OF THE COLON, WHICH WAS STRANGULATED.[1]

By Leonard Freeman, M.D.,
of Denver, Colorado.

The abdominal viscera and peritoneum are subject to various malformations and malpositions, sometimes acquired and often congenital. They were formerly regarded as mere anatomical or pathological curiosities, but with the growth of abdominal surgery they have acquired a new significance. This is especially true of the peritoneal fossæ and of the irregularities in form and position of the colon, cæcum, and vermiform appendix. Unless the surgeon be familiar with these unusual phenomena his diagnostic ability will be curtailed, and he may at any time be confronted by confusing conditions for which he can find no adequate explanation.

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[1] Read before the American Surgical Association, Washington, May 14, 1903.

The peritoneal fossæ, for instance, may be responsible for the most remarkable forms of hernia, involving at times the entire bowel, and leading to great perplexity in diagnosis and surgical treatment in case of strangulation. This is particularly true of the duodenal fossæ.

Although the duodenal fossæ were described as early as 1776 by Neubauer, their importance was first pointed out by Treitz in 1857,[1] who described their anatomical peculiarities with accuracy, and emphasized the fact that both small and large herniæ occasionally developed within them.

The duodenal fossæ lie opposite the third lumbar vertebra, where the duodenum emerges from the transverse mesocolon. They are formed by folds of peritoneum attached to the duodenum. If, in the cadaver, the abdomen be widely opened by both longitudinal and transverse incisions, and the colon pulled upward so as to put its mesocolon on the stretch, while the mass of small intestine, with its mesentery, be thrown over to the right, one or two more or less well-defined folds of peritoneum may often be seen fastened to the duodenum near the point where it merges into the jejunum. Rarely are they attached to the jejunum itself. These folds form the borders of corresponding peritoneal fossæ, which were formerly called duodenojejunal fossæ (Treitz); but, seeing that they are more intimately connected with the duodenum than with the jejunum, the term duodenal fossa is preferable.

To assist in gaining a clear idea of the situation, one can imagine that the lower portion of the duodenum has been pushed, as it were, through the posterior parietal peritoneum at the base of the transverse mesocolon, dragging with it attachments of the peritoneum or mesocolon, or both, which necessarily form folds. If it is the mesocolon, the fold will have its sickle-shaped concavity toward the pelvis, the resulting fossa extending toward the diaphragm; while, if the posterior parietal peritoneum is concerned, the concave border of the fold will be toward the diaphragm, the fossa bulging toward the pelvis. The former condition gives rise to the superior duodenal fold and fossa (Fig. 1, A), while the latter causes the inferior duodenal fold and fossa, sometimes designated the "fossa of Treitz" (Fig. 1, B).

In addition to these two principal folds, others of minor importance may exist, especially an intermediate one. All of them may be present at once, or any of them may occur singly. They may be so poorly developed as to escape all but the closest observation, or they may be so prominent as to form deep, well-marked pockets.

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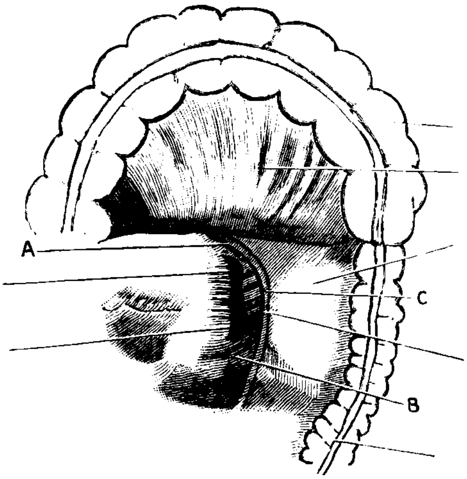
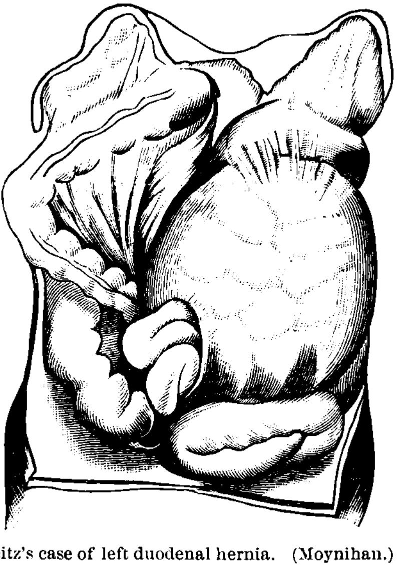
[1] Hernia Retroperitonealis, Prague, 1857.

FIG. 1.



A, superior duodenal fold; B, inferior duodenal fold; C, inferior mesenteric vein. (Juvara.)

FIG. 2.

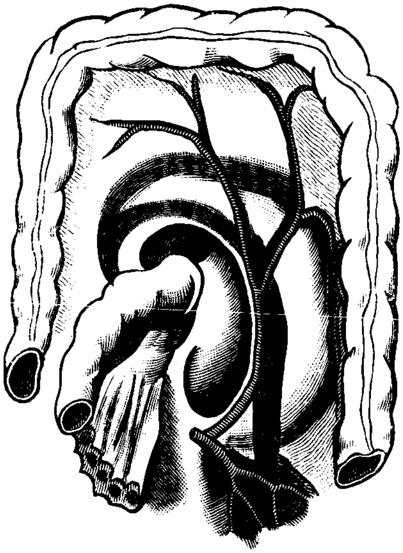


Treitz's case of left duodenal hernia. (Moynihan.)

The inferior mesenteric vein encircles the left border of the duodenal fossæ, generally passing quite close to it (Fig. 1, C). The left colic artery is usually found more externally. These vessels form the so-called " arch of Treitz." They are a source of danger if an attempt is made to incise the neck of the sac when strangulation is present.

It has always been taught that left duodenal hernia—one in which the sac develops beneath the posterior parietal peritoneum principally to the left of the median line (Fig. 2)—almost invariably occurs in connection with the inferior duodenal fossa; but with this Mr. Moynihan does not agree. He believes that another fossa, which occasionally appears somewhat external to this, is responsible. This he designates the " paraduodenal fossa " or " fossa of Landzert." It is formed by a fold of peritoneum (plica venosa), elevated by the inferior mesenteric vessels (Fig. 3). His main argument is based on the fact that the mouth of the hernial sac is always vascular. This argument, however, seems open to question—in the larger herniæ, at least—as it would require but little stretching of the opening to bring the inferior mesenteric vein in such intimate relation with the mouth of the sac that accurate differentiation would be impossible.

FIG. 3.



Paraduodenal fossa or fossa of Landzert. (Moynihan.)

Mr. Moynihan, in his excellent monograph,[1] has collected fifty-eight cases of left duodenal hernia, thus showing that, although the affection is sufficiently uncommon, it is not so rare as was heretofore supposed·

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[1] Retroperitoneal Hernia, London, 1899.

Strangulation, however, seldom occurs, Jonnesco having found mention of but eight cases in the literature of the subject.

Some time ago it was my fortune to meet with a strangulated left duodenal hernia in a strong, well-developed man, aged forty-seven years, an American by birth, and a miner by occupation. He had always enjoyed good health, except occasional slight indefinite abdominal pains. Following an attack of diarrhœa lasting three weeks he suddenly developed, four days before I saw him, a severe ileus, with the usual symptoms of acute intestinal obstruction. An operation was at once performed. The pulse was then 120 and unsatisfactory in quality, the temperature subnormal, and the capillary circulation poor.

On opening the abdomen we were surprised to find the cavity occupied by an immense tympanitic tumor resembling an ovarian cyst, which could be outlined on each side and below by passing the hand between it and the abdominal walls. The small intestine was nowhere to be seen, but the colon could be felt below and to the right side. After some deliberation we opened the tough, membranous sac, within which was found the entire small intestine, together with the cæcum and some six or eight inches of the adjacent colon. There was also considerable foul and bloody serous fluid, no trace of which existed outside the sac, showing how completely the inner cavity was separated from the outer.

The cæcum, which was distended with fluid feces to the size of an infant's head, and largely gangrenous, lay in the left upper quadrant of the abdomen, just beneath the spleen, in the vicinity of which the swollen appendix was attached by recent inflammatory adhesions. Several inches of the large intestine near the cæcum were also gangrenous. The cæcum and neighboring colon possessed a very long mesentery, which rendered them freely movable.

In tracing the colon from below upward it was seen to emerge from the small pelvis upon the left side, as usual, and then pass directly across the lower portion of the abdomen, coiling itself loosely in the right iliac fossa and right lumbar region, outside the sac containing the small intestine. It then entered this sac through an opening on the right side posteriorly, and, passing beneath a portion of the small bowel, ended in the cæcum in the superior lumbar region on the left side. The colon was strangulated at the point where it entered the sac.

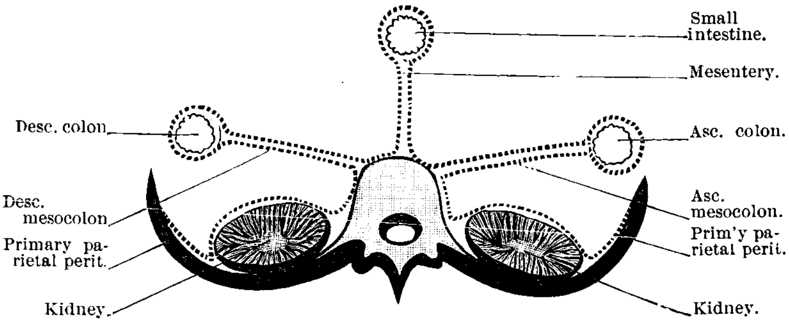
In attempting to relieve the condition it was necessary to resect the gangrenous cæcum, together with some six inches of the large intestine and a considerable portion of the small bowel. In doing this the gut was crushed with an angiotribe, the cut ends invaginated, and the opening closed with an over-and-over suture. A side-to-side anastomosis was then made with a Murphy button between the lower end of the ileum and a loop of colon in the right iliac fossa.

The patient's resisting powers were so poor, and the operation was so complicated and extended, that death resulted. No autopsy was obtained, but the abdomen had been so freely opened that the condition was evidently as described.

This case seems, in some respects, unique. In no other instance, so far as I am aware, has any portion of the colon been found within the sac of a duodenal hernia; in fact, several writers state specifically that the colon invariably remains outside, as though this were an important characteristic of this form of hernia. This unusual feature is easily accounted for, however, by the mesentery of the cæcum and colon being of abnormal length.

Another anomalous condition is to be noted in the fact that the entire colon lay in folds upon the right side of the abdomen instead of encircling the hernial sac, as was to be expected. Such a malposition is usually congenital, as I at first imagined it to be in this instance, and arises from rotation of the umbilical loop during fœtal life in a direction contrary to the normal, thus carrying the whole large bowel over to the right side, beneath the mass of small intestine instead of above it. This, however, is probably not the correct explanation in the present case. It is more likely that the cæcum and colon originally possessed an exceedingly long mesentery (Fig. 4), and that adherence of the descending colon in the left lumbar region failed to take place as it normally should in the course of the development of the individual (Fig. 5). The attachment of such a mesentery would be near the centre line of the body, close to or identical with that of the mesentery of the lesser bowel. Under these circumstances it can be imagined that the duodenal fossæ might be present to even more than the average extent, because of the looseness of the mesocolon, which normally is so firmly adherent to the posterior parietal peritoneum as to practically form part of it.

FIG. 4.



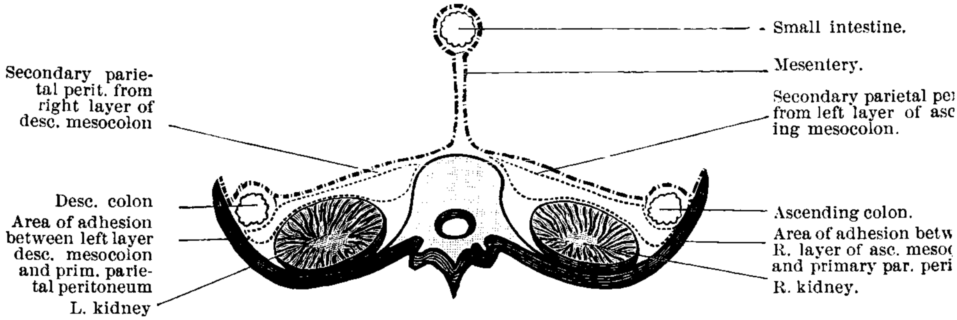
(Huntington.)

Hence if a duodenal hernia should occur, as it would probably have an exceptionally good opportunity of doing, the sac would have a tendency to develop to the left of the large bowel instead of to the right of it, thus displacing the descending and transverse colon to the right side of the abdomen, providing the hernia were of large enough size.

In the formation of a postperitoneal hernia such as the one under consideration, the duodenum enters the opening first, dragging after it the jejunum and then the ileum with their mesentery. The cæcum, being attached to the lower end of the ileum, would enter last. As the mouth of the hernia is situated toward the posterior aspect of the sac, the cæcum would be apt to pass beneath the greater portion, at least, of the small bowel, as was the case in the present instance. Strangulation of the colon would be quite likely to occur owing to stretching of the mesenteric vessels and pressure against the sharp edge of the sac.

The fact that the colon alone was found to enter the sac, without any portion of the small intestine being present in the opening, seems at first a little confusing unless we remember that the duodenum passes beneath the peritoneum to the duodenal fossa, so that when a hernia is formed the remainder of the bowel is dragged through the opening into the space where the duodenum already lies. Hence only that portion of the bowel which has been pulled in, so to speak, can pass through the hernial opening. This condition, which is often found, to say the least, would seem to contradict the opinion of Moynihan that duodenal herniæ almost invariably occur in the paraduodenal fossa beneath the plica venosa, as this would necessitate the entrance of the duodenum into the general peritoneal cavity before it could enter the sac (Fig. 3), which would lead to two sections of bowel being found in the opening instead of one.

FIG. 5.



(Huntington.)

Since writing the above I have encountered, during an autopsy, a second case of left duodenal hernia. The patient died from gangrene of the small intestine, accompanied by severe hemorrhage (stomach and bowels), arising from thrombosis of the mesenteric and portal veins, which in its turn was dependent upon a "hobnail liver." The hernia was apparently in no way concerned with the fatal issue.

The individual was an exceptionally strong and well-developed man, aged forty-seven years, who had always enjoyed good health. He had been subject, however, to indigestion, and occasionally experienced slight pain and uneasiness in the abdomen.

The sac filled the entire left side of the abdominal cavity and pushed well over to the right of the median line. It contained all but six inches of the small intestine, the transverse and descending colon being spread out upon its upper and left outer surface, leaving the ascending colon and cæcum in their normal position. The mouth of the sac was round and smooth and easily admitted three fingers. From it emerged the lower end of the ileum to join the cæcum in the right iliac fossa. The opening was just to the right of the vertebral column, on a level with the crest of the ileum and toward the dorsal and inferior portion of the sac. Its free ventral border was occupied by the inferior mesenteric vein, while the left colic artery ran much further to the left, along the posterior abdominal wall.

The small intestine, which appeared to be unusually short, was arranged in regular parallel folds, like a Mikulicz drain, running from the left below to the right above. The omentum was short and thick and pushed to the right side above the sac. There was no strangulation of bowel or mesentery.

RARE CASE OF APPENDICULAR ABSCESS SITUATED BETWEEN THE LAYERS OF THE MESENTERY OF THE SMALL INTESTINE.

APPARENTLY DUE TO A PERFORATION BETWEEN THE BASE OF THE APPENDIX AND CÆCUM BY A ROUND WORM. FIRST OPERATION, DRAINAGE. SECOND OPERATION FOR OBSTRUCTION IN TWENTY-SEVEN HOURS. ENTEROSTOMY. STARVATION DUE TO HIGH POSITION OF FECAL FISTULA. THIRD OPERATION, SIX WEEKS. INTESTINAL ANASTOMOSIS. RECOVERY.[1]

By Joseph C. Bloodgood, M.D.,
OF BALTIMORE, MD.

I bring this patient before the Society because of a number of rare and interesting features in a very complicated attack of appendicitis. It is the first definite localized abscess which I have

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[1] This patient was exhibited before the Medical and Surgical Section of the Medico-Chirurgical Faculty of Maryland, Friday, February 20, 1903.